DOCUMENT RESUME

ED 081 333 HE 004 483

AUTHOR	Terman, Frederick E.
TITLE	What Policy, If Any, Should Massachusetts Follow Concerning State Aid to Private Institutions of Higher Education?
INSTITUTION	Academy for Educational Development, Inc., Washington, D.C.
PUB DATE	Feb 73
NOTE	34p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Educational Administration; *Educational Economics; *Educational Finance; Financial Policy; Financial Problems; *Higher Education; Private Schools; Public Schools; *State Aid
IDENTIFIERS	*Commonwealth of Massachusetts

ABSTRACT

The Commonwealth of Massachusetts needs to develop policies concerning: (1) the future development and expansion of public institutions of higher education; (2) the continued expansion of private institutions of higher education; and (3) the establishment of relationships between these two groups of institutions that will maximize their combined value to the Commonwealth. The Commonwealth's private institutions of higher education represent an asset of unparalleled value that could be lost if the State does not act to insure their survival. Recommendations include: (1) the establishment of a State policy on aid to private higher education designed to conserve and improve the asset that the state now has in private education; and (2) investigation into the many forms of assistance to private higher education. The appendix contains information on support of part-time education through technology. (Author/PG)

ED 081333

WHAT POLICY, IF ANY, SHOULD MASSACHUSETTS FOLLOW CONCERNING STATE AID TO PRIVATE INSTITUTIONS OF HIGHER EDUCATION?

By

Frederick E. Terman
Vice President and Provost Emeritus
Stanford University

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

HE 004 483

Report Prepared For:

Academy for Educational Development
1424 - 16th Street, N.W.
Washington, D.C. 20036

February 1973

FILMED FROM BEST AVAILABLE COPY

TABLE OF CONTENTS

		PAGE
I.	Overview	1
II.	Background Factors	8
III.	Mechanisms for State Aid to Private Education	16
IV.	Possible Forms of State Aid in Massachusetts	27
	APPENDIX: Further Information on Support of Part-time Education Through Technology	30

I. OVERVIEW

Five, ten, fifteen years from now the Commonwealth of Massachusetts will need a wide array of strong universities and colleges, both public and private.

They will need these institutions to furnish the state with the trained brain power to expand the Commonwealth's economic development and well-being.

They will need these institutions to continue to attract out-of-state students into what is clearly one of the state's major export industries.

They will need these institutions to maintain the Commonwealth's unparalleled position among the nation's advanced technology industries.

Today Massachusetts has one of the strongest higher education systems in the country. There are steeples of excellence in many areas and they are no minor steeples. They are among the top in the nation. But there are counter-trends to the maintenance of excellence observable everywhere that could easily lead to the deterioration of the quality of the colleges and universities in this state.

While deterioration in quality can and must be prevented, colleges and universities, both the public and the private institutions, cannot do the job alone. New governmental action is necessary. New governmental policies are required. The policies adopted during the next few years by the Governor and the General Court, and through these actions, by the people of Massachusetts themselves, are critical. They will go a long way toward determining the future strength of higher education in Massachusetts.

Let there be no question about it. Quality higher education, quality instruction, quality research and development, and quality institutions are hard to achieve and require continuing attention to maintain. Once deteriorated, the road to recovery is difficult and may never be fully reentered.

Today Massachusetts has a unique higher education establishment in which there has been invested billions of dollars over the years. Wrong policies or inadequate policies could throw part of this tremendous asset away. This would be a waste of the most inexcusable kind. As trustees for the people of the Commonwealth, neither the Governor, nor the General Court, nor any other senior state official can in good conscience allow such a deterioration to occur.

Today the state as represented by its legally elected and appointed representatives needs to develop policies: (a) for the future development and expansion of public institutions of higher education; (b) for the continued vigor and expansion of the private institutions of higher education; and (c) for establishing relationships between these two groups of institutions that will maximize their combined values to the Commonwealth. Policies such as those required will not coalesce by themselves. Neither will they arrive out of the discussions by the individual presidents of the institutions involved, or their board members, or individual government agencies, no matter how extensive and intensive such discussions. The policies will be formed in one of two ways, either

1. because the Secretary of Educational Affairs, the Governor, and the General Court examine the alternatives, arrive at some decision, and put a course of action into progress, or
2. because the officials involved, both legislative and executive, allow matters to drift and take no action. <u>This in itself would be a policy decision of extraordinarily far reaching magnitude and significance.</u>

There is no doubt that state policy will be formed for public institutions because every year they need a budget from the Governor and the General Court for both operating and capital purposes, and because their individual activities are so closely observed by executive and legislative officials, particularly in their home districts.

On the private institution side, however, there is no indication that aggressive action will occur unless someone takes the initiative. At the moment no one is doing so. The private machinery that could be in operation exists on paper, but has not been mobilized into activity. Rugged individualism has prevented joint efforts that are effective here, as it has in other private areas of economic activity in Massachusetts, and in fact in all of New England.

But for the General Court and the Governor of Massachusetts this cannot be good enough. One purpose of this memo is, therefore, to say clearly that there ought to be a policy with respect to private institutions of higher education, that this policy ought to be defined soon, and that the Governor and the General Court ought to nurture and conserve for the Commonwealth and the nation the quality and vitality of the private institutions

of higher education in Massachusetts.

If there are constitutional obstacles they ought to be removed. If there are devices that can be used they should be used.

Paramount in policy-making should be the realization that the Commonwealth's private institutions of higher education represent an asset of unparalleled value that could be lost. Today the use of this asset pours no less than one billion dollars a year into the economy of the state in the form of salaries and wages, in the purchase of goods and services, and in the carrying on of a myriad of activities.

No state can ignore such an amount in the name of private free enterprise.

In the past, Massachusetts, along with the other New England states, did ignore a great asset -- the textile and shoe manufacturing industries. These, too, poured great amounts into the state's economy. Maybe nothing should have been done to have protected their future well being, but their transfer elsewhere did hurt this state's economy substantially and for a long period of years.

The future of Massachusetts as an industrial state will depend largely on its success in developing industries based on advanced

technology. Thus, it needs a strong system of higher education for its economic well-being.

The state should not allow a situation to develop similar to that of the textile and shoe industries. It should take seriously, at the very highest level of policy-making, the importance of conserving and maintaining the great asset that it now has in a system of higher education of unparalleled quality and diversity.

Conclusions

In light of the foregoing and of the material outlined in the subsequent sections of this paper,the conclusions are as follows:

1. There should be a state policy on aid to private higher education established by the General Court.
2. This policy should be designed to conserve and improve the asset that the state now has in private education.
3. There are many forms of assistance to private higher education that are possible. In Massachusetts some may require a constitutional amendment, some may not. All forms should be explored immediately. Brief statements on a number of possibilities are outlined later in this memorandum.

4. State policy on aid to private higher education should be developed by the Governor and the General Court, even if the private institutions do not agree on the details among themselves. The responsibility for conserving private higher education in Massachusetts is a state responsibility which cannot be disregarded.

II BACKGROUND FACTORS

The role of the private institutions of higher education in Massachusetts is unique. Massachusetts is the only state in the nation with a greater number of students enrolled in private institutions than in the state supported public institutions of higher education.

Table 1 shows that almost 60% of Massachusetts enrollment in 1971 was in private colleges and universities, broken down as follows:

TABLE 1. Percentage of Total Higher Education Enrollment in Private Institutions in Massachusetts, Fall, 1971, by Type of Program

Type of Program	Percentage of Total Enrollment in Private Institutions
Undergraduate	63.3%
Graduate	76.2%
Professional*	99.7%
Extension	28.3%
Occupational**	15.3%
ALL PROGRAMS	59.7%

* Includes law, medicine, dentistry, theology, chiropody, optometry, and osteopathy. The only public enrollment is in the University of Massachusetts Medical School in Worcester.

** Includes programs of an occupational nature not creditable towards a Bachelors Degree.

Source: Unofficial data provided by U.S. Office of Education, Higher Education Survey Branch, October 6, 1972

Note: Preliminary information for Fall 1972 seems to indicate a small decline in the private percentage and a correspondingly small increase in the public percentage.

There is no doubt that the quality of the private institutions of higher education in Massachusetts is the highest in the nation. This does not refer solely to the great research-oriented educational institutions of Harvard and the Massachusetts Institute of Technology, or to the prestigious four-year colleges such as Amherst, Williams, Smith, and Wellesley which serve a national clientele; it also applies to institutions such as:

- Wentworth Institute, which provides a two year engineering technology course that is tops among its kind in the nation;
- Wheelock and Leslie Colleges, which provide high quality programs in early childhood education and in teaching those with learning disabilities;
- Simmons College, which has the largest accredited school of library science in New England; and
- Tufts University, which has the largest school of dentistry in New England, enrolling 130 students a year.

Overall, Massachusetts also has a great diversity of private institutions, which may be broken down as follows:*

- Two high prestige, highly endowed, research oriented institutions with nationally prestigious programs at both undergraduate and graduate level, with 13.7 percent of the

---

* Based on the classification from Financial Problems of Massachusetts Private Higher Education, Select Committee, Boston, January 1970.

state's private school enrollment in 1971.

- Other universities, with 46.7 percent of the state's private school enrollment.
- Four year colleges of national prestige with a high expenditure per student and national clientele, with 10.9 percent of the state's enrollment.
- Four year colleges with lower per capita student expenditure and lower national prestige, with 15.6 percent of the enrollment.
- Specialized colleges, with 6.5 percent of the enrollment.
- Two year colleges, with 6.6 percent of the enrollment.

As one of the most important export industries in the state, private higher education is a significant factor in the Massachusetts economy. The private institutions attract many out-of-state residents whose expenditures in Massachusetts help to support the state's economy.

In addition, out-of-state students often remain in Massachusetts after graduation and contribute to the development of the state's highly technological brain-intensive and skill-intensive industries which have been the principal impetus for economic growth in the state in recent decades. Massachusetts' firms get the

first and closest look at these graduates, many of whom develop a fondness for Boston in particular, and New England in general, with the result that Massachusetts firms are in an unusually favorable position to recruit high-quality people. In turn, this gives these firms a competitive advantage in the national scene.

Massachusetts private colleges and universities have not yet faced the kind of financial crisis which caused institutions such as the University of Pittsburgh, the University of Buffalo, and Temple University to become state supported institutions and which led to the sale of New York University's Bronx campus. Over the past three years only two private colleges have had to close their doors: Cardinal Cushing College in Boston and Regina Coeli College in Fitchburg.

The relative financial stability of Massachusetts' private institutions is partially a result of young people's desire to come to the Boston area, which for some time has been an "in" city. While the high prestige and high endowment institutions in Massachusetts have always had a national clientele, some of the middle level institutions such as Boston College, Boston University, and Northeastern expanded their enrollment and recruited a large number of out-of-state residents during the 1960's .

This is illustrated by Table 2.

TABLE 2. Percentage of Massachusetts' Residents at Boston College, Boston University, and Northeastern University, 1955-1972

	1955[1]	1960[1]	1966[1]	1972[2]
Boston College	90.0	81.0	70.0	58.9
Boston University	70.0	57.0	45.0	31.6
Northeastern University	80.0	75.0	65.0	65.0*

*estimated

Source:

1. "Undergraduate Enrollment of Massachusetts Residents in the Private Colleges and Universities of Massachusetts: 1955, 1960, 1966", by Raymond Castelpoggi, Assistant Director, Office of Institutional Studies, Univ. of Mass., Amherst, 1967
2. Survey by AICUM, 1972

Some of the smaller private institutions have experienced similar changes in their clientele. This shift was due, in part, to the rapid expansion of public education in Massachusetts, which competes for the same students; and, in part, to efforts to expand tuition income to offset increasing costs.

But the out-of-state student comprises an unstable supply that

cannot continue to expand. As public education expands in the Middle Atlantic states of Pennsylvania, New Jersey, and New York, fewer and fewer parents will be willing to make the financial sacrifice to send their children to Boston.

Thus, if present trends continue, over the next few years a number of small private colleges, especially two year colleges and the weaker liberal arts schools, can be expected to be forced to close. In addition, certain of the larger institutions, especially those with a limited endowment income, may find themselves in a struggle for survival resulting from a squeeze between declining enrollments and continued fixed expenditures. Many other institutions will be able to stay alive only by reducing the quality of their instruction. Therefore, the time to consider alternative course of action is now, rather than when a moment of crisis is reached.

There is no doubt that the crisis that is developing in private higher education in Massachusetts, as in the remainder of the country, is a real crisis. It has been documented elsewhere and need not be repeated here. Its causes are:

- The rapidly escalating costs of all higher education
- The relative reduction in the pool of persons able to pay the increasingly high tuition of private institutions
- The rapidly expanding public sector of higher education in Massachusetts and neighboring states

If Massachusetts does not prevent this crisis, the economic consequences will be:

- A loss of income generated by thousands of out-of-state students who come to Massachusetts
- A loss of the high level professionals who immigrate from other states to Massachusetts to teach and carry on research at private institutions
- A deterioration of the quality of high level manpower available to Massachusetts industry, which is a major economic advantage that Massachusetts has over other regions
- Greatly increased costs in the public sector of higher education to pick up the load dropped by private institutions, which in a time of economic austerity Massachusetts can ill afford

If Massachusetts does not prevent this crisis, the social consequences will be:

- Diminishing opportunities for its own citizens
- A loss of steeples of academic excellence in higher education
- An irreparable loss of the cultural diversity and creativity which have marked Massachusetts life since colonial times.

III. MECHANISMS FOR STATE AID TO PRIVATE EDUCATION

There are numerous mechanisms for state aid to private institutions of higher education. In the following discussion the emphasis is placed on people rather than on physical items. There is now a lesser need for plant and equipment expansion than previously, and existing facilities in the private sector can go a long way before they will become fully utilized.

A. Student Aid

There are three types of student aid-- scholarships, fellowships, and traineeships. More than twenty-three states have scholarship programs to assist students at the undergraduate level to attend an institution of their choice. The largest programs are those of New York ($80 million), Pennsylvania ($60 million), and Illinois ($51 million). Massachusetts, with a program limited to an $8 million budget, is one of the smaller ones. Scholarships are usually awarded on the basis of need, or academic excellence of the student, or for both. Recently, the trend to award scholarships solely on the basis of need has grown. Scholarships could be awarded at a standard figure, or as some percentage of the actual cost of education to the student.

Fellowships, awarded at the graduate level to individual students, are more likely to be awarded for a particular field or discipline. Need at the graduate level tends to be much more widespread than at the undergraduate level, since most graduate students are economically independent of their families.

Traineeships, which can be at the graduate or undergraduate level, could be awarded to the institutions in a field where an unmet need for trained individuals exists. Armed with these traineeships, the institution itself could seek qualified candidates. Thus, while the first two forms of student aid usually go to the student, the third form goes to the institution which then directs the aid to the student.

Even on a large scale, student aid cannot solve the basic financial problems associated with the educational programs offered by colleges and universities, although it may ease them. However, student aid could be accompanied by a "cost of education grant" to the institution which the aid recipients attend. For instance, in addition to $1500 provided to the student, the institution of his choice could also get up to $1500. This could:

- Allow private institutions to expand their enrollments even when their endowment income might not keep up with the

increased expense.

- Assist private institutions in improving their student services .
- Permit the private institutions to slow down the steady rise in tuition rates which has been characteristic of recent years and which threatens to price them out of the market. In fact, with a cost of education allowance, it might be possible for them to hold tuition constant for awhile, or even roll it back slightly.

Cost of education grants could be set up to serve both public and private institutions* on an equal basis. If a student chooses to go to, say the University of Massachusetts, then the university might get $1500 extra to cover the cost of attendance. Cost of education grants would be particularly useful at the graduate and professional school level, where the total costs tend to be higher than tuition.

B. Contracting for Programs*

The state may contract with private institutions to provide specific programs for state residents, in areas such as medicine,

---

*In Massachusetts this probably requires a constitutional amendment.

engineering, dentistry, etc. The major argument for contracting is that the expansion of an existing program at a private institution would be much less expensive than the development of an entirely new program under the state's aegis. Contracting could cover all or a percent of the actual operating expenses per student, or could be provided on the basis of the number of degrees awarded.

In fact, the state does not necessarily have to choose the particular programs it wishes to aid. In New York, the so-called "Bundy money" provides a stipend of $400 for every bachelors and masters degree awarded by a private institution and $2400 for every Ph.D. This approach may be advantageous, because it does not require the state to decide which institutions or which programs deserve money. The disadvantage is that it gives the same support to mediocre programs as to superior programs and may therefore lead to a dilution of quality. Also, the state is not able to direct its support to programs most important for its own social and economic well-being.

C The Pennsylvania Program

Pennsylvania supports both public and private institutions of higher education in four classes of schools, as follows:

1. State Aided Colleges and Universities

   These are a number of private colleges and universities which receive an annual appropriation from the state. The University of Pennsylvania, the largest institution in this class, receives $10 to 15 million a year from the state legislature.

2. State Related Institutions

   These partly public, partly private institutions receive a large subsidy from the state. The state sets a maximum tuition which is higher than for fully state owned institutions but lower than at most private institutions. Each institution has its own decision-making board, but with a number of state representatives on it. For nearly a century, Pennsylvania State was the only state related institution; now Pittsburgh, Temple, and Lincoln, formerly private institutions, are also state related.

3. State Owned Schools

   These are fully state controlled and get 100% of their support from the state legislature. These are mainly former teacher's colleges.

4. Community Colleges

The Community Colleges are controlled and financed by counties or communities. They get a grant from the state for about 50% of their operating expenses, as well as matching aid on buildings.

D. State Supported Chairs

State supported chairs, another mechanism for support of private institutions, help to guarantee the quality of higher education. These chairs could be made available to both public and private institutions.

The Einstein and Schweitzer programs started in New York provide $100,000 for each chair. But more modest programs could involve a stipend in the range $25-30,000 a year plus fringe benefits and an allowance for expenses not to exceed $5000 a year per chair. In addition each chair could have associated with it $15,000 to $50,000 as a single appropriation for start-up expenses for a new incumbent. The total cost per chair would therefore not be much more than $30-35,000 after the first year.

The state could define the disciplines in which it would like to award chairs. It would then examine competitive proposals submitted by the various colleges and universities, treating the public and private institutions alike. Selection of the chairs should be related to existing facilities in various disciplines.

E. Support of Student Services

The state could provide support for basic services, such as libraries, computers, and infirmaries. The state might provide funds to libraries to buy books, to support general operations, or to aid a one-time reorganization such as computerization of reference services. The state could administer financial support so as to foster cooperation among neighboring public and private libraries in a particular area.

The state could pay the capital cost of setting up a computer facility or could provide an operating subsidy or an allowance for class instruction in engineering and other programs, where each student probably needs at least $200 worth of computer time each year. The state could also develop a centralized computer facility with remote terminals in most of the public and private institutions in a region. Support of computer services also helps private and public colleges and universities to save money on their own computer services for other uses such as registrar records. Such a state operation probably saves money in the end because of the centralization of facilities. Also the state helps to improve the quality of instruction in such subjects as in science, technology, business, etc. The principal beneficiaries of such a program would be institutions like Worcester Polytechnic Institute, Wentworth Institue, the engineering program at Northeastern University, etc.

The state could also support student medical services, especially

for schools in very close proximity (such as those around the Fenway). One infirmary could serve several institutions.

F. Tax Exempt Bonds

Massachusetts recently began another form of support to private higher education by issuing tax-free bonds to finance improvements at private institutions. With the reduction of growth in student enrollment, capital expenditures will mostly be used to replace obsolete buildings. However, as federal construction support tapers off, the institutions will increasingly have to turn to the state for the support of capital expenditure.

G. State Payment to Communities for Services Provided to Universities

Payment to communities to cover the services which they provide to tax exempt colleges and universities would redress what many believe to be an inequitable situation. Communities with many college students such as Cambridge and Boston provide police and fire service as well as many other municipal services to educational institutions and their students without being able to tax the property of non-profit institutions. On the other hand, private institutions are unable to afford to provide payments in lieu of taxes for the entire cost of municipal services.

Since higher education provides varied state-wide benefits, as discussed above, the state could accept the responsibility of relieving

the cities and towns of the burden of providing services to students and institutions of higher education.

H. Support of Consortia

Through a modest expenditure of funds the state could improve the operation of consortia among public and private institutions. At present most consortia provide program enrichment for students but don't represent a cost saving to the institutions involved. Incentives for consortia to provide real economies need to be thought through and negotiated fully among the cooperating institutions.

The state could provide administrative services, transportation of students from one campus to another, or even direct payment to colleges and universities which participate in cooperative ventures.

In Massachusetts the Five Colleges Consortium in the Connecticut Valley, which links four private colleges and the University of Massachusetts, Amherst, has a common department of astronomy and provides the mechanism for cross-registration of 6000 students. The Worcester consortium, which links eight private institutions and three public institutions, has a common library program providing twenty four hour access to two million volumes in all the libraries of the participating institutions and a large scale cross registration system. Since both consortia have already developed good rapport, provision of state money could allow them to break new ground in the near future.

I. Research

Until now the federal government has supported most of the scientific research in the country. While there has been some leveling off and a shift of emphasis, we can still expect federal aid to continue.

It would not be advisable for the state to undertake major support of scientific research, given its own limited funds and the nationwide scope of research. However, the state might consider providing seed money to promising researchers which might enable them to get federal grants. This would help the state economically, as well as support Massachusetts' high technology industries. An appropriate implementing mechanism would be an organization patterned after the Massachusetts Science and Technology Foundation.

J. Support of Part-time Education through Technology

The state could foster the expansion of part-time education by utilizing existing facilities of public and private institutions. The colleges could provide the regular courses which are part of their continuing education program, using closed circuit television with audio two-way conversation arrangements, or by means of video tape systems, while the state could pay for administration of the program and the capital costs involved. A state supported program could expand coverage to reach employees in industry and normally inaccessible groups such as those in hospitals and prisons. Further comments on this possibility are in the Appendix.

K. A Gift Incentive System

The state could match gifts derived from private sources on the basis of about 20¢ from the state for each dollar of gifts received in a year, through the first $3 million to $5 million gifts. The precise numbers to be used in such a system should be so selected as to be a strong inducement to schools to make special efforts to increase their gifts from private sources. At the same time, putting a ceiling on the amount of gifts that would be matched avoids putting the state in the untenable position of supporting the richer private institutions. This would be a novel approach to state aid to private colleges and universities.

IV. POSSIBLE FORMS OF STATE AID IN MASSACHUSETTS

The choice of mechanisms for state aid to private education should rest on the objectives of:

- support of excellence in any sector important to the state's economic and social well-being
- provision of quality education to all Massachusetts residents, regardless of income or geographic location
- encouragement of the creation of quality education, i.e., of additional steeples of excellence -- in both public and private institutions -- especially in response to problems which require new configurations of knowledge for their solution
- encouragement of cooperation, efficiency, and cost effectiveness among all institutions, both public and private
- utilization of the entire resource base of higher education, both public and private

Based on a limited knowledge of Massachusetts, I would suggest that for the immediate future the most practical and feasible form of state aid to private education lies in expansion of the present scholarship program, which provides $900 to each aid recipient who goes to a private institution and $250 to each one who goes to a public institution.

The present appropriation of $8,000,000 is inadequate both on a per capita and an absolute base, as shown by Table 3, which compares the most progressive states -- Vermont, Pennsylvania, Illinois, New York and New Jersey -- with Massachusetts.

TABLE 3. Scholarship Programs in Five States with Highest Appropriation Per Capita and in Massachusetts, 1972-73

State	Appropriation	Appropriation per Capita (based on 1970 population)
Vermont	$ 2,500,000	$ 5.63
Pennsylvania	$60,500,000	$ 5.13
Illinois	$51,400,000	$ 4.62
New York	$80,100,000	$ 4.40
New Jersey	$25,700,000	$ 3.58
Massachusetts	$ 8,000,000	$ 1.41

Source: National Association of State Scholarship Programs, "Fourth Annual Survey", September, 1972

An increase to $25 or $30 million dollars would begin to adjust the budget to the needs of the student as well as relieve the private colleges of some of the burden of financial aid.

A second useful approach should be in contracting for services from private institutions.* Contracting for services by the state from private institutions can serve a number of purposes, among them:

- developing a new technology not yet available in the Massachusetts area
- expanding output in an area vital to the state's social or economic well-being, such as medicine, dentistry, or engineering.

---

* The present state constitution probably prohibits contracting for services in private institutions: however, an amendment to the constitution to permit state support of higher education is in process.

- maintaining the high quality now being produced in a particular area. Some private institutions producing librarians or social workers, for example, may find themselves unable to continue at their present level of quality given their financial resources. Thus the state would protect a steeple of excellence which otherwise would degenerate.

A third approach should be to use new technology (television, video tape, computers) to expand part-time and continuing education.** If the state utilizes present public and private facilities, the actual cost of the development of such a system would be quite modest. As outlined in the appendix, the program would encourage real co-operation, bring in new revenue to public and private institutions, reach presently untouched clienteles and get industry intimately involved in the education of its personnel. It would be a step towards recognition of the United States as a learning society and education as a lifelong activity.

** Massachusetts is already considering an "Open University" to serve this purpose.

APPENDIX. FURTHER INFORMATION ON SUPPORT OF PART-TIME EDUCATION THROUGH TECHNOLOGY

Many people believe that in the future state and private institutions will join into consortia using closed circuit TV and audio talk-back facilities, supplemented by the use of video tape techniques, to expand part-time education to employees in factories, offices and other non-educational locations. The state might provide the facilities, including the network; the educational institutions would produce the courses.

A system of closed circuit talk-back television for such a purpose was established at the University of Florida in 1964, and at Southern Methodist University in the Dallas-Fort Worth area of Texas in 1967 for graduate work in engineering. More recently Stanford University, the University of Michigan, the University of Minnesota, University of Southern California, City University of New York, and others have begun to use TV networks for graduate work.

The system is simple and is tailored to the job to be done. It emphasizes normal classroom environment in the originating studio classroom, where bonafide students sit before the professor in a room that appears much like any classroom. Talkback is provided students at remote locations through pushbutton microphones. In this way the student in the viewing room not only hears class discussions but can participate in them and can even interrupt the lecture to ask a

question or initiate a discussion. Students at remote locations do homework and take examinations concurrently with students at the originating studio classroom. A courier system is used to distribute and collect papers.

Another possibility is the use of video tape. Although video tape lacks the talk-back feature, it has the advantage of low capital costs; also it can be used to supplement a television system by distributing tapes to industrial plants and remote classrooms that are outside the range of a television system.

Studies show that the performance on examinations and in homework of students in electronic residence both for television and for video tape exhibits no detectable difference from that of students who received the course directly from the professor in the studio classroom.

In the Dallas-Fort Worth area in 1968 there were thirty one viewing classrooms in industrial plants at eleven different locations. Acceptance of the system in the Dallas-Fort Worth area has been excellent by both students and employers. In fact at the SMU Institute of Technology on-campus students often deliberately choose to attend the course in a viewing room only a few feet down the hall from the classroom where the course is taking place and there are empty seats available. The explanation for this behavior

has been found to lie in the fact that the viewing room students can ask each other questions and can smoke.* In addition, the viewing room environment resembles that of one's home, where each of the students has spent hours glued to his television set.

Such systems have advantages for all concerned. The working student loses no time in commuting, has the same professor as the day students, and in effect sits in the classroom with them. To the educational institution, the TV system enables it to bring together both full-time and part-time students in a single class and thus to save money. For the industrial employer, instruction by television or video tape insures him that his work staff will be upgraded and gives him a fringe benefit to offer when hiring new employees.

The TV system can also be used to exchange programs among institutions of higher education. Such a project would increase diversity of offerings. However, only if the institutions planned and cooperated together could they begin to realize savings through the elimination of faculty teaching positions in one or several of the institutions.

---

* A cynic might contend that students like the viewing room because they don't have to pretend to be attentive when the lecture is boring.